DOCUMENT RESUME

ED 481 072 CG 032 700

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TITLE	Young Offenders' Diagnoses as Predictors of Subsequent Adult Criminal Behaviour.
PUB DATE	2003-08-00
NOTE	13p.; Poster presented at the Annual Conference of the American Psychological Association (111th, Toronto, ON, Canada, August 7-10, 2003).
PUB TYPE	Information Analyses (070) -- Reports - Research (143) -- Speeches/Meeting Papers (150)
EDRS PRICE	EDRS Price MF01/PC01 Plus Postage.
DESCRIPTORS	*Criminals; *Delinquency; Intervention; *Longitudinal Studies; Males; *Mental Disorders; *Predictor Variables

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YOUNG OFFENDERS' DIAGNOSES AS PREDICTORS OF SUBSEQUENT ADULT CRIMINAL BEHAVIOUR

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Poster presented at the 111th Annual Convention of the
American Psychological Association
Toronto Ontario
Thursday, August 7, 2003, 11:00-12:50

This study was conducted with support from Ryerson University, The Hincks-Dellcrest Centre, the Samuel Rogers Memorial Trust, and the Natural Sciences and Engineering Research Council of Canada. We wish to thank David Day, Kathy Underhill, Cheryl Williams, Karine Melkoumian, Christina Hollingshead, David Geguzinskis, Corporal Denis Riou, Laurine Martyn, and Ron Richardson for their assistance.

ABSTRACT

This longitudinal study of 248 male offenders examined the relationship between psychiatric disorders, diagnosed in adolescence, and subsequent adult criminal activity. Criminal offences were tracked for an average of 8.7 years (range = 4.2 - 14.6) from age 18-33. Cox Proportional Intensity regression analyses were conducted to predict the rates of adult offending of different offence types (i.e., property, violent, drug, sex, and technical offences) from psychiatric disorder categories. Overall, results indicate that psychiatric disorders in adolescence are associated with a lower rate of general offending in adulthood. Instead of predicting general offending, certain psychiatric disorders were predictive of specific types of offending. Adult sex offences, for example, were predicted by sexual/gender identity disorders, psychotic-spectrum disorders, disruptive behaviour disorders, learning/ communication disorders, and adjustment disorders. The implications for interventions with disordered offenders are discussed.

INTRODUCTION

Criminology literature has consistently reported elevated rates of psychopathology among both young and adult offenders, compared to the general population (Hinrichs, 2001; Arseneault, et al., 2000). Among young offenders, higher than average rates of developmental disorders (Armistead, et al., 1992, Siponmaa et al., 2001), conduct disorders (Kazdin, 1995), affective disorders (Puig-Antich, 1982; McManus, et al., 1984), anxiety disorders (Frame et al., 1990), substance use disorders (Farrow & French, 1986), and personality disorders (Ganzer & Sarason, 1973) have frequently been reported.

From the standpoint of preventing criminal recidivism, a crucial question to consider is whether elevated rates of psychopathology in offenders predict recidivism. Some researchers have found a positive association between certain psychiatric disorders and recidivism (Vander Stoep et al., 2002; Vermeiren et al., 2002); others have not (Bonta et al., 1998; Teplin, et al., 1994). Conflicting findings in the literature may be explained in part by methodological differences. For example, few studies have examined the full range of psychiatric disorders in offenders due to small sample size or selection procedures that limit the range of disorders in the sample.

In considering the relationship between psychiatric disorders and recidivism, it is possible that, rather than predicting general recidivism, specific psychiatric disorders predict certain types of offending (e.g., property, violent). This issue has received little attention in the literature (Hernandez-Avila et al., 2000; Hollander & Turner, 1985), although there is some suggestion that specific relationships do exist. For example, in their meta-analysis, Hanson and Bussiere (1998) found that the strongest predictors of sexual recidivism were sexual deviance variables.

The Present Study

The present study examined whether specific psychiatric disorders diagnosed in young offenders during adolescence predict the rate of subsequent offending of various offence types (i.e., property, violent, drug, sex, technical) in adulthood. This Canadian sample, consisting largely of chronic offenders who presented with a wide range of psychiatric disorders, was followed over an extended period of time to track their offence trajectories. Instead of restricting the analyses to recidivism rates or frequency counts, current statistical modelling techniques were utilized that more fully encompassed the longitudinal nature of the criminal data and accounted for the high rate of comorbidity of disorders.

METHOD

Research Participants

The sample was derived from 378 male young offenders who had been sentenced to one of two open custody facilities in Toronto between 1986 and 1995 and who received a psychiatric assessment by the facility psychiatrist. The final sample, consisting of 248 young offenders, did not differ from the young offenders who did not receive a psychiatric assessment with respect to age at admission, number of court contacts, or the type of offences committed. The final sample was on average 17.7 years of age (SD=.9; range= 16.2 - 24.4) at the time of admission into the youth home. Their criminal offences were tracked for an average of 8.7 years (SD = 2.3; range = 4.2 - 14.6) following discharge from the youth home until March 17, 2001, the time of the most recent follow-up.

Coding Criminal Records

For completeness and accuracy, official criminal records for juvenile and adult offences were obtained from three government sources (Ministry of Community and Social Services, Ministry of Correctional Services, and Canadian Police Information Centre), as well as from the children's mental health centre (Hincks-Dellcrest Centre) that operates the youth homes. The criminal records were coded for a range of variables for each court contact arising from a new set of charges. The variables included all criminal charges, disposition, length of sentence, date of sentencing, severity of the most serious charge, and offence type. Each charge was categorized into one of five offence types: property, violent, drug, sex, or technical (e.g., breaches, escape custody). In this way, at each conviction, the offender could be classified into more than one offence type category.

Coding Psychiatric Data

Psychiatric data were obtained from the clinical files maintained by the facility psychiatrist and were subsequently verified by him. Clinical diagnoses were classified according to the criteria of the *Diagnostic and Statistical Manual of Mental Disorders* (DSM III-R; APA, 1987), in keeping with the standard diagnostic protocol during the 1986 to 1995 period. All 248 young offenders in the sample were assessed by the same psychiatrist within the first few months of their admission into the youth home.

Regression Analyses

Separate Cox Proportional-Intensity (i.e., non-parametric time-inhomogeneous Poisson) Regression analyses, with stepwise addition and deletion of variables, were conducted for each of five offence types and for all offence types combined. The goal of this method was to obtain non-parametric estimates of the cumulative

post-18 offence rate trajectories, as a function of the psychiatric disorders, treated as covariates. Cox Proportional Intensity Regression gives an estimate of the cumulative offence rate, $\Lambda_i(t)$, for individual i, corresponding to the expected number of conviction dates between ages18 and t, where $t \geq 18$. An estimate of the form $\hat{\Lambda}_i(t) = \hat{\Lambda}_0(t) \exp(\beta' x_i)$ was obtained, where $\hat{\Lambda}_0(t)$ is the baseline cumulative offence rate, which is estimated non-parametrically from the data, corresponding to an individual, with all covariates equal to 0, and x_i is the list of covariates for individual i and β is the vector of regression coefficients, to be estimated parametrically.

Predictor Variables

The predictor variables were: a psychiatric indicator variable (DIS) that indicated whether the individual did or did not have a psychiatric disorder; the total number of psychiatric disorders (TOTDIS); and 13 psychiatric categories entered into the same regression model.

Dependent Variables

The dependent variables were the rates of offending between ages 18 and t for each of the five offence types, i.e., property, violent, drug, sex, or technical, as well as all offence types combined. Offending rates were based on the number of occasions each individual was charged with each offence type, corrected by the length of follow-up. Note that offence type was based on the complete set of charges the individual was initially charged with, not only on the charges for which he was convicted or the most serious charge. Thus, a fuller range of charges received by the individual was accounted for.

RESULTS

Of the 248 young offenders who received a psychiatric assessment during their residence at the youth home, 15.7% received no diagnosis, 28.2% were diagnosed with one psychiatric disorder, 31.0% with two, 17.7% with three, and 7.3% with four or more disorders. The percentage of offenders who received various diagnoses, grouped by categories, are reported in Table 1. Percentages sum to more than 100% because of co-morbidity of disorders.

Table 1. Percentage of Offenders in Various Psychiatric Disorder Categories.

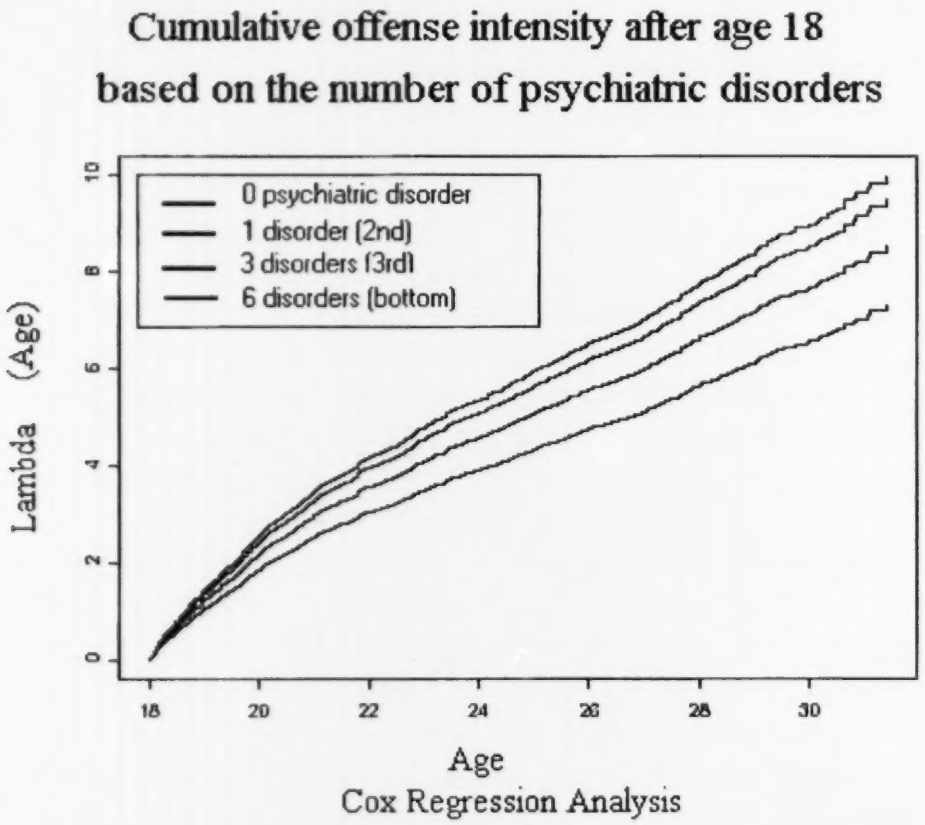
Psychiatric Disorder Categories
1. **Substance-related disorders (subst) (31.9%):** alcohol, drug and other substance abuse/dependence
2. **Disruptive Behaviour Disorders (disrupt) (21.8%):** conduct disorder, oppositional-defiant disorder, disruptive behaviour disorder - not otherwise specified (NOS), antisocial personality disorder
3. **Mood Disorders (mood) (17.3%):** depression, bipolar disorders
4. **Narcissistic/Borderline Personality Disorders (narc/bor) (13.3%)**
5. **Adjustment disorders (adjust) (12.9%)**
6. **Impulse Control Disorder (impulse) (12.5%)**
7. **Other personality disorders (o/person) (12.1%):** passive-dependent, obsessive-compulsive, asocial/schizoid, pa[illegible]id, passive-aggressive, deprivation syndrome, personality defects, personality disorder-NOS
8. **Sexual/gender identity disorders (sexual) (11.7%)**
9. **Learning, communication, and tic disorders (ld/comm) (11.7%)**
10. **Psychotic-spectrum disorders (psychot) (9.3%):** schizophrenia, schizophreniform disorder, schizoaffective disorder
11. **Other emotional/internalizing disorders (o/intern) (8.9%):** anxiety, somatoform, dissociative, sleep, eating/elimination disorders
12. **Attention Deficit Hyperactivity Disorder (adhd) (6.9%)**
13. **Disorders of mental ability and cognition (cognitiv) (6.0%):** mental retardation, organic mental disorders

Effect of Disorder (DIS) on Adult Offence Rates

The disorder indicator variable (i.e., whether the offender had one or more psychiatric disorders) was predictive of a higher rate of adult sex offences ($\beta = .61$; $p < .05$), but a lower rate of all adult offence types combined ($\beta = -.13$; $p < .05$) and a lower rate of adult drug offences ($\beta = -.52$; $p < .05$).

Effect of Number of Disorders (TOTDIS) on Adult Offence Rates

A greater number of psychiatric disorders was predictive of a higher rate of adult sex offences ($\beta = .30$; $p < .05$), but a lower rate of adult property offences ($\beta = -.09$; $p < .05$), and a lower rate of all adult offence types combined ($\beta = -.05$; $p < .05$). The figure below presents the rate of all adult offence types combined, as a function of the number of psychiatric disorders.



Effect of Thirteen Psychiatric Categories on Adult Offence Rates

In these set of analyses, the thirteen psychiatric categories were entered into the regression model to predict the rates of adult offending. (See Table 2).

Table 2. Cox Proportional Intensity Regressions with Thirteen Psychiatric Categories as Predictors of Adult Offence Rates.

Dependent Variable	Regression Coefficients*
All Adult Offence Types Combined	-.25 adjust** -.45 mood +.20 psychot -.43 sexual -.24 narc/bord -.18 ld/comm
Adult Property Offences	-.68 adjust -.57 mood +.29 subst -.70 sexual -.54 narc/bor +.34 o/person
Adult Violent Offences	-.44 mood -1.04 sexual
Adult Drug Offences	-1.14 sexual
Adult Sex Offences	.84 adjust +.56 psychot +1.16 sexual +1.03 disrupt +.64 ld/comm
Adult Technical Offences	-.38 mood +.23 subst -.53 sexual

* $p<.05$

** The shortened names of psychiatric disorder categories associated with specific regression coefficients correspond with the names of psychiatric disorder categories as described in Table 1.

- **Higher rates of all adult offence types combined** were predicted by psychotic-spectrum disorders. **Lower rates of all adult offence types combined** were predicted by adjustment disorders, mood disorders, sexual/gender identity disorders, narcissistic/borderline personality disorders, and learning/communication disorders.
- **Higher rates of adult property offences** were predicted by substance-related disorders and certain personality disorders. **Lower rates of adult property offences** were predicted by adjustment disorders, mood disorders, sexual/gender identity disorders, and narcissistic/borderline personality disorders.
- **A lower rate of adult violent offences** was predicted by mood disorders and sexual/gender identity disorders.
- **A lower rate of adult drug offences** was predicted by sexual/gender identity disorders.
- **Higher rates of adult sex offences** were predicted by adjustment disorders, psychotic-spectrum disorders, sexual/gender identity disorders, disruptive behaviour disorders, and learning/communication disorders.
- **Higher rates of adult technical offences** were predicted by substance-related disorders. **Lower rates of adult technical offences** were predicted by mood disorders and sexual/gender identity disorders.

DISCUSSION

Overall, the results of our study indicate that psychiatric disorders identified in adolescence are associated with a lower rate of general offending in adulthood. This finding is consistent with the literature comparing disordered and non-disordered offenders (Bonta et al., 1998).

The only disorder category that was found to predict general offending was psychotic-spectrum disorders. There has been considerable controversy in the literature regarding the relationship between psychotic disorders and offending behaviour. In general, recidivism studies that have examined a single re-offending event have not found an association with psychotic disorders; in contrast, studies focussing on hallucinations and delusions have found an association (Teplin, et al., 1994). Conflicting findings may thus be explained by the fact that these disorders are episodic in nature and may not impact on the commission of any particular offence unless the individual is in the active phase of the illness. Because our study examined offending behaviour over an extended follow-up period, it is likely that we captured the sporadic effects of psychotic disorders on offending behaviour.

Rather than predicting general offending behaviour, our results indicate that certain psychiatric disorders predict specific types of adult offending. The most notable finding is that adult sex offences are predicted by sexual/gender identity disorders, psychotic disorders, disruptive behaviour disorders, learning/communication disorders, and adjustment disorders. The implications for the prevention of recidivism are that, in young offenders with a history of sex offences, clinicians should be particularly alert to the possibility of these disorders.

Another finding is that substance-related disorders predicted a higher rate of property offences (perhaps because of a need to support a drug habit) and technical offences (e.g., breaches and escape custody). Treatment for substance disorders may thus be expected to reduce the incidence of these types of offending.

Our future research will look at the relationship between specific psychiatric disorders and severity of subsequent offending, and versatility of offending.

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